irregularity in the width of the lines, the effect resembles that of an outburst of hydrogen in the solar atmosphere. The elements of the water are, as we must suppose, separated in the arc, but from the explosive character of the effect they are not uniformly distributed in the arc. The arc being horizontal and the image of it projected on to the slit of the spectroscope, it was really a very small section of the arc which was under observation, and this renders the variation in the width of the lines the more remarkable.

III. "Note on the Order of Reversibility of the Lithium Lines." By G. D. LIVEING, M.A., F.R.S., Professor of Chemistry, and J. DEWAR, M.A., F.R.S., Jacksonian Professor, University of Cambridge. Received March 1, 1883.

In our communications on the reversal of the lines of metallic vapours, we have several times noticed ("Proc. Roy. Soc.," vol. 28, pp. 357, 369, 473) the reversal of the lithium lines, and concluded that the blue line is more easily reversed than the orange line. This, however, does not appear to be really the case. When much lithium is introduced into the arc, a second blue line is developed close to but slightly more refrangible than the well-known blue line. This second blue line produces with the other the appearance of a reversal, which deceived us until we became aware of the existence of the second line. The blue line (wave-length 4604) is really reversed without difficulty when sufficient lithium is present, but under these circumstances the orange line is also reversed. The latter line is also the one which first (of the two) shows reversal, and also the one which is more persistently reversed. Hence we place the lines in order of reversibility as follows: red, orange, blue, green, violet.